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The Reference Installation Approach for the Techno-Economic Assessment of Emission Abatement Options and the Determination of BAT According to the IPPC-Directive

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The 'best available techniques' (BAT) play an essential role in the actual realisation of the IPPC-Directive, because they are to serve as a basis for the determination of emission limit values and for the licensing of installations. Hence, the techniques and the possible abatement options have to be characterised on process level with regard to environmental benefits, technical practicability and especially economic feasibility. Also on supranational level, the development of reliable emission reduction strategies necessitates the assessment of emission reduction options/techniques to be performed on installation resp. process level. With regard to the European environmental policy as a whole, synergies for data collection should be used and requirements of transparency and consistency should be met, increasing the safety as to law for the concerned industrial sectors.

Therefore, in this paper the *reference installation* concept, which has been developed in the framework of the preparation of the new 'multi-pollutant and multi-effects' protocol of the UN/ECE [7,8], is being proposed as an approach for the documentation and evaluation of emission reduction options/techniques. Due to the variety and heterogeneity of emission sources, not each single installation in each sector can be assessed; thus, categories of installations have been defined, each category being represented by a *reference installation*. For all installations of a category, the same abatement options apply, and applicability, reduction efficiency and costs for a given emission reduction option are similar [4,6].

The emission and cost data have been obtained from branch experts and representatives of industrial associations, and validated by the UN/ECE Task Force on the Assessment of Abatement Options/Techniques for VOC and NO_x. For a comprehensive and transparent documentation, the *data sheet concept* has been conceived, which is based on a classification of emission sources following the CORINAIR nomenclature for emission inventories [1,2], completed by further subdivisions allowing to represent the lowest aggregation level corresponding to the reference installations. The techno-economic parameters are specified for single measures and combinations of primary and secondary measures applicable to a given reference installation, following the approach elaborated in the VDI-RL 3800 [9]. The costs indicated in the data sheets correspond to investments and annual operating costs induced by the implementation of a given emission reduction option. These costs are defined as *additional* costs directly induced by the reduction of emissions.

This presentation puts up for discussion the use of the reference installation concept within the proposed cross-media assessment approach for the determination of BAT as presented in [3,5], since it appears to be suitable for the realisation of a First Screening and a Mass and Energy Balance within the presented procedure and especially for the evaluation of the economic feasibility of the considered techniques, linking technology, and cost databases.

References

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